



NATIONAL OPEN UNIVERSITY OF NIGERIA  
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**B.Sc (Ed) Health Education**

## **PERSONAL HEALTH (HED 101)**

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## **COURSE GUIDE**

### **Introduction**

Personal health is concerned with the state of wellbeing of the whole body which is necessary for its sound growth and development, it will enable the body carry out its different functions effectively. The human body is made up of many parts, each part has its special roles and functions. For these functions to be effective and healthy, there are basic requirements that must be met. Many of today's diseases could be largely prevented and controlled through some simple, consistent personal health practices needed for promotion of health and prevention of certain diseases.

### **The Course**

HED 101- Personal Health Education is a two credit unit course that will discuss the basic personal health care skills needed for preventing and managing common health problems that individuals and school age children experience.

### **Course Competencies**

The course aims to give an understanding of the concepts and definitions of personal health and to acquaint you with the information on the practices expected of individuals that will help promote, protect and maintain their health.

### **Course Objectives**

**By the end of this course, you will be able to:**

- Acquire knowledge on the basic skills and practices that promotes individual and community health.
- Learn the importance of food as it influences good health.
- Learn about risk behaviours that have negative effect on health.
- Learn about environmental factors that can affect health.

### **Working through the Course**

To complete this course successfully, you are required to study and understand the units. At the end of every unit, there are self-assessment exercise which you are required to answer and submit for evaluation purposes.

## **Study Units**

This course is made up of five modules broken down to 28 study units as shown below:

### **Module 1 Fundamentals of Personal Health**

- Unit 1      Concept and Definition of Health
- Unit 2      Definition of Health Education
- Unit 3      Definition of Personal Health

### **Module 2    Requirements for Personal Health**

- Unit 1      Good Food
- Unit 2      Exercise
- Unit 3      Sleep and rest
- Unit 4      Recreation
- Unit 5      Posture
- Unit 6      Postural Defects

### **Module 3    Personal Hygiene**

- Unit 1      Oral Hygiene
- Unit 2      Care for Clothing
- Unit 3      Care for the skin
- Unit 4      Care for the Hair
- Unit 5      Care for the Eyes
- Unit 6      Care for the Ears
- Unit 7      Hand Washing

### **Module 4    Environment and Good Health**

- Unit 1      Environmental Health
- Unit 2      Water Supply
- Unit 3      Purification of Water

Unit 4	Sewage Disposal
Unit 5	Refuse Disposal
Unit 6	Pollution
Unit 7	Housing
Unit 8	Food Handling

Module 5	Lifestyle Related Health Problems
Unit 1	Lifestyle and Behaviour
Unit 2	Obesity
Unit 3	Diabetes
Unit 4	Drug, Alcohol and Smoking Problems

## **References and Further Reading**

At the end of each module, there are a list of references for further readings. Students are advised to get the listed references and materials. Students are also expected to utilize the internet for related materials on the course. This will help widen their knowledge and understanding of the course.

## **Presentation Schedule**

The presentation schedule which is included in this course material shows the modules, units and self-assessment exercise. You are expected to read through all the modules, answer all the questions and submit them at due dates.

## **Assessment**

Assessment will be based on Tutor Marked Assessment (TMA) which is thirty (30) marks and the final examination which carries seventy (70) marks will be written at the end of the course.

## **Final Examination and Grading**

The final examination in this course carries 70%. You are expected to sit for this final examination in your various Study Centres.

## **How to Get the Most from the Course**

The medium for learning in this course is through the course materials, which is well structured into modules and the different topics presented as units under each module. The learner is at liberty of studying the course material at his own pace, time and place that suits him the most. Each study unit provides you with the introduction, objectives and self-assessment questions to help you understand the units better. You are required to read through all the units in each module and answer all the questions that follow. Attend all facilitation sessions as arranged by your study centre, answer all your TMA questions and sit for final exams at the end of this course.

## **Facilitation**

You will receive online facilitation. The facilitation is learner centered. The mode of facilitation shall be asynchronous and synchronous. For the asynchronous facilitation, your facilitator will:

- Present the theme for the week;
- Direct and summarise forum discussions;
- Coordinate activities in the platform;
- Score and grade activities when need be;
- Upload scores into the university recommended platform;
- Support you to learn. In this regard personal mails may be sent;
- Send you videos and audio lectures; and podcast.

For the synchronous:

- There will be eight hours of online real time contact in the course. This will be through video conferencing in the learning management system. The eight hours shall be of one-hour contact for eight times.
- At the end of each one-hour video conferencing, the video will be uploaded for view at your pace.
- The facilitator will concentrate on main themes that students must-learn in the course.
- The facilitator is to present the online real time video facilitation time table at the beginning of the course.



- The facilitator will take you through the course guide in the first lecture at the start date of facilitation.

Do not hesitate to contact your facilitator if you:

- Do not understand any part of the study units or the assignment.
- Have difficulty with the self-assessment exercises
- Have a question or problem with an assignment or with your tutor's comments on an assignment.

Also, use the contact provided for technical support.

Read all the comments and notes of your facilitator especially on your assignments: participate in the forums and discussions. This gives you opportunity to socialize with others in the programme. You can raise any problem encountered during your study. To gain the maximum benefit from course facilitation, prepare a list of questions before the discussion session. You will learn a lot from participating actively in the discussions.

Finally, respond to the questionnaire. This will help the university to know your areas of challenges and how to improve on them for the review of the course materials and lectures.

## **Course Summary**

This course material covers background information and ideas that will prepare and equip students with knowledge and skills for personal health. The course is divided into five modules that contains key concepts and purpose of personal health namely fundamentals of personal health, requirements for personal health, personal hygiene, environment/good health, lifestyle related health problems.

I wish all users of the module success and fruitful outcomes as they go through this course as part of requirements for the award of B.Sc. Ed in health education

## **MODULE 1**

Unit 1	Fundamentals of Personal Health
Unit 2	Requirements for Personal Health
Unit 3	Personal Hygiene
Unit 4	Environment and Good Health
Unit 5	Lifestyle Related Health Problems

### **UNIT 1 BASIC DEFINITION OF TERMS**

#### **CONTENTS**

1.0	Introduction
2.0	Intended Learning Outcome(s) (ILOs)
3.0	Main Content
3.1	Definition and Concept of Health
3.2	Definition and Concept of Health Education
3.3	Definition and Concept of Personal Health.
4.0	Self-Assessment Exercise
5.0	Conclusion
6.0	Summary
7.0	References for Further Reading

#### **1.0 Introduction**

In this unit, you will be taught the definitions of some basic concepts which you need to know about Personal Health Education. Also, explanations and definitions of relative terms such as Health, Health Education and Personal Health Education will be clearly discussed in order to acquaint you with the basic fundamental terms related to Personal Health Education.

#### **2.0 Intended Learning Outcome(s) (ILOs)**

By the end of this unit, you will be able to:

- Appraise the word Health
- Justify the word Health Education
- Discuss the word Personal Health

- Relate Health, Health Education and Personal Health.

### **3.0 MAIN CONTENT**

#### **3.1 Concept and Definition of Health**

Most people think of health in terms of physical wellbeing. Such thoughts are usually focused on prevention of diseases or managing illnesses and the ability to participate in fitness activities. However, scholars in the field of health have come to understand that health is a very broad concept that has far reaching meaning beyond physical parameters. Some of the definitions of health are stated below.

In 1947, the World Health Organization provided a definition confirming that “health, is a state of complete physical, social, emotional and mental wellbeing, and not merely the absence of diseases or infirmity. This definition clearly shows that state of health is influenced by a number of factors.

Bedworth (1982), stated that health can be defined as the quality of people’s physical, psychological and sociological functioning that enables them to deal adequately with self and others in a variety of personal and social situations. Health is therefore related to every aspect of life and a truly healthy individual is one that is sound in body, mind and spirit.

The World Health Organization (WHO) definition of health, though comprehensive has received criticisms. Most criticisms centre on the word “complete” which many consider to be absolute and difficult to measure. On the account of the various limitations in the World Health Organization (WHO) definition of health.

Joint Committee on Health Education and Promotion Terminology (2012) states that “health is a dynamic state or condition that is multidimensional (i.e., physical, emotional, social, intellectual, spiritual and occupational) a resource for living, and results from a person’s interaction with and adaptation to the environment”.

Obinna, Ositadinma Oteribe *et al* (2018) defines health as “a satisfactory and acceptable state of physical (biological), mental (intellectual), emotional (psychological), economic (financial), and social (societal) wellbeing”. They believe that this state would result in maximum productivity, positive contributions and relevant existence in a degenerating and decaying world.

#### **3.2 Concept and Definition of Health Education**

Health Education in its technical sense is the science of health behaviour. It is concerned with peoples health behaviours towards common diseases and health

problems as well as educational processes used to bring about positive health behaviours (Ademuwagun, 1987).

The World Health Organization has also defined health education as all those experiences of an individual, group or community that influence beliefs, attitudes and behaviours with respect to health as the process and efforts of producing change that is necessary for optimal health.

Udoh (1987) defines health education as a process with intellectual, psychological and social dimensions relating to activities which increases the ability of people to make informed decisions affecting their personal, family and community wellbeing.

Joint Committee on Health Education and Promotion Terminology (1990) has defined health education as part of education that include the delivery and evaluation of planned, sequential and developmental appropriate instruction, learning experiences and other activities designed to promote and enhance the health literacy, attitudes, skills and wellbeing of students.

Health Education has undergone various definitions which are open to various interpretations depending on what angle one is looking at it the health, concept or understanding of whoever is putting forth the definition.

Some other definitions which are often quoted by scholars in Health Education include the following:

- Health Education is the sum total of all experiences which favourably influence habits, attitudes and knowledge related to individual and community health.
- Health Education is a process of providing teaching and learning experiences for the purpose of favourably influencing knowledge, attitude, practices and conduct with regards to individual, family and community health.
- Health Education is the translation of what is known about health into desirable individual and community behavioural patterns.
- From all the above definitions, it is clear that the following facts are true of Health Education.
- Health Education contributes to total development of the individual, providing meaningful experience which will positively influence health.
- Health Education is focused on individual and community in which the family and the school belongs.

- Health Education must have positive influence on the individual in such a way that the individual can care for his/her own health as well as play a part in promoting community health.
- Health Education facilitates the prevention of health problems.
- Health Education mission is to assist individuals and communities in the acquisition and understanding of the knowledge required to select a lifestyle that is actualising, healthy and happiness promoting.

### **3.3 Concept and Definition of Personal Health**

Personal health is concerned with the state of wellbeing of the whole body which is necessary for its sound growth and development to enable it carry out its different functions effectively.

Personal health has to do with the demonstration of health knowledge, skills and attitude necessary for choosing a healthy lifestyle.

#### **4.0 Self-Assessment Exercise**

1. In your own concept, explain the word “health”.
2. What is health education?
3. Explain the term personal health.

#### **Answers**

1. Health definition should be holistic i.e. comprising of physical, mental, emotional and social wellbeing of an individual. However, some scholars in the field have argued that “state of health is not static, but fluctuates and can be affected by factors such as environment, heredity etc.
2. Health Education is the science of health behaviour concerned with people’s health behaviours towards common diseases and health problems as well as educational processes used to bring about positive health behaviours. The World Health Organization has also defined health education as all those experiences of an individual, group or community that influence beliefs, attitudes and behaviours with respect to health as the process and efforts of producing change that is necessary for optimal health.
3. Personal health is concerned with the state of wellbeing of the whole body which is necessary for its sound growth and development to enable it carry out its different functions effectively.

## 5.0 Conclusion

It is important to understand the various fundamental terminologies needed to aid better understanding of the importance of personal health in the promotion of the health for all individuals. Terminologies such as health, health education and personal health are well explained.

## 6.0 Summary

This unit provides a background in understanding the concepts, principles and definitions of some fundamental terminologies as given by scholars in the field of health education. It defines the key words and terms relevant to Personal Health Education.

## 7.0 References/Further Reading

Allegrante, J.P. (1998). *Health promotion for school staff and students: A key component of the coordinated school health program*. DC National Academy Press.

*American School Board Journal*. Healthy bodies for healthy minds. March 2002, 9-10.

Berryman, J.C. (1994) *Health Promotion in Schools: A comprehensive school health challenge*, Sata Cruz, C.A ETR Associates.

Bullard M.M. & Robert, W.G. (1995). Evaluating Health Education programs Kentucky AAHPERD 31, No. 2,22-24.a

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Nash, D. B., Fabius, R. J., Skoufalos, A., Clarke, J. L., & Horowitz, M. R. (2016). *Population health: creating culture of wellness* (2<sup>nd</sup> ed.). Burlington, MA: Jones & Bartlett Learning.

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## **UNIT 2      REQUIREMENT FOR PERSONAL HEALTH**

### **CONTENTS**

- 1.0    Introduction
- 2.0    Intended Learning Outcome(s) (ILOs)
- 3.0    Main Content
  - 3.1    requirement for personal health

	3.1.1	Good Food
	3.1.2	Exercise
	3.1.3	Sleep
	3.1.4	Rest
	3.1.5	Recreation
	3.1.6	Posture
	3.1.7	Postural Defects
4.0		Self-Assessment Exercise
5.0		Conclusion
6.0		Summary
7.0		References/Further Reading

## **1.0 Introduction**

In this unit, you will learn the behaviours, attitude and practices that are required of an individual for the promotion and maintenance of good health. Practices such as eating good food, engaging in regular exercises, having adequate rest and sleep as well as the importance of engaging in healthy recreational activities.

## **2.0 Intended Learning Outcome(s) (ILOs)**

By the end of this unit, you will be able to:

- Identify the food substance needed by the body for healthy growth and development.
- Justify the role of exercise in maintenance of good health.
- Distinguish between sleep and rest.
- Discuss the importance of sleep and rest in promoting healthy living.
- Describe recreation and its role in growth and development of health.

## **3.0 MAIN CONTENT**

### **3.1 Requirement for Personal Health**

The human body is made up of many parts and all the parts have their special roles and functions. For these roles and functions to be effective and healthy, there are basic requirements that must be met. The basic requirements that are important for



healthy growth and development has to do with factors such as good food, exercise and recreation, sleep and rest, clothing, medical checkup and good personal hygiene.

### 3.1.1 Good Food

One of the most important factor that promotes good health and wellbeing of all individuals is food. All human beings are required to eat the correct food, at the right time and in the right proportion. Good food, in the right proportion has great impact on personal health. The human body is made up of cells and these cells need to be well nourished in order to keep them in good working conditions. The human body needs six food substances such as carbohydrates, proteins, fats and oil, vitamins, minerals and water in order for the cells to remain healthy. Cultivation and maintenance of good eating habits is crucial for healthy living.

In addition to satisfying hunger and thirst, good food contains nutrients (chemical components) that performs one or more of the following important functions:

- Providing energy
- Supporting proper growth and development
- Maintenance of body tissues
- Helping regular body temperature.



Fig. 2.1: Healthy Food

Source: <https://www.cancercenter.com/community/blog/2019/06/good-better-best-list-of-healthy-foods>

There is need for a balanced diet in the meals eaten. Insufficient or lack of some of these essential nutrients needed by the body can lead to some diseases and may affect the general wellbeing of an individual.

### **3.1.2 Exercise**

Regular participation in exercise is necessary for maintenance of personal health. The body needs regular exercise for best development of muscles and to keep various parts of the body in tune. Apart from the physical benefits of exercise, it also helps to develop social and emotional values e.g. tolerance, cooperation, obedience to rules of games and officials.

It provides avenue for social interactions among different tribes, race and it is useful for development of skills which lead to excellence in various sports. Excellent performance in sports can provide career opportunities that will enable one to earn a living.

Engaging in regular physical exercise helps the body to improve in personal health in the following ways:

- Because physical exercise involves the movement of various parts of the body, the muscles are actively involved thereby resulting in sufficient supply of oxygen and other nutrients to the muscles which help to further strengthen the muscles.
- Exercise increases the heartbeat which helps to strengthen the heart muscles and increase blood circulation.
- The increase in blood circulation helps to carry oxygen and food nutrients to all the body cells.
- Exercise increases breathing which allows increased oxygen inhalation.
- Carbon dioxide is also carried away from the body at a faster rate during exercise.
- Exercise speeds up the removal of other waste products from the body, for example excess lactic acid is removed through the kidney.
- The sweat glands are activated
- More sweats are released
- Exercise makes food digestion easier and chances of constipation are minimised.
- Exercise help in building up skeletal muscular system and also increases joint mobility (flexibility).

- Exercise increase mental health because the nerves of the brain also receive increased blood supply.
- Exercise prevents excess accumulation of fat or cholesterol thereby reducing the risk of cardiac diseases.
- Exercise encourages good sleep and relaxation which is needed for body rejuvenation.

To watch a video of what happens inside your body when you exercise, click on <https://www.youtube.com/watch?v=wWGulLAa000> courtesy of British Heart Foundation.

### **3.1.3 Sleep**

Sleep is a state of partial unconsciousness from which one can awaken. Sleep is a natural part of life. Sleep is required by all plants and animals for survival. Sleep is nature's way of giving the body a chance to overhaul all its parts in order to prevent a breakdown. During sleep, all activities are decreased. Physical and mental strength are partially restored during the process of sleep. Lack of sufficient sleep develops into "sleep debt". The sleep debt can have a serious negative effect on daily activities, thinking and efficiency. This may lead people to falling asleep at dangerous hours e.g. when driving or operating a dangerous tool, which may lead to serious accidents that may result in injuries or even death.

#### **What happens during sleep?**

During sleep:

- The heart beats more slowly.
- Breathing becomes shallow.
- Temperature decreases.
- Blood supply to the brain is lessened.
- Movement of the intestinal tract are retarded.
- All secretions of the body are diminished except that of the skin.
- Every organ decreases its work for needed rest.

Adequate sleep is important to personal health, sleep allows the body to function effectively and efficiently. The following basic information will help individuals getting good sleep.

- Individuals need at least eight –nine hours of sleep daily, to enable one feel at his best.
- Individuals should have regular bedtime and stick to it.
- A quiet and dark room encourages good sleep.
- Sleeping is best done on comfortable beds and comfortable room temperatures.
- Avoid heavy meals close to bedtime.
- Spend more quiet time relaxing before going to sleep e.g. read a story, take a warm bath etc.
- Quiet and restful music may help encourage sleep.
- There should be good fresh air in the room.
- Maintain a calm and peaceful state of mind.

Inability to sleep is referred to as insomnia. Many of the causes of insomnia can be prevented e.g. tiredness, over eating, anxiety, poor sleeping conditions etc. persistent sleeplessness can be dangerous and a doctor's advice may be necessary.

### **3.1.4 Rest**

Rest refers to calmness of the body and mind which helps to prevent nervous breakdown. Rest does not necessarily mean that one should be asleep. Rest is important to personal health because it helps the body in the following ways:

- Rest helps the body to come back to normal efficiency after it is fatigued or exhausted.
- Rest decrease the strain on the heart and blood vessels.
- Rest quiets the nervous system, thus relieves excitement.
- Rest reduces the active motion of some parts of the body thereby avoiding strain and injury.
- A few minutes of rest and relaxation each day refreshes and enables one to continue his task with greater ease.

### **3.1.5 Recreation**

Recreation is one of the greatest avenue to develop both mind and body and assist in recovery from general fatigue.

Recreation refers to any form of physical or mental activity which is indulged in pleasure and relaxation. For recreation to promote health, it must be worthwhile and socially acceptable. Recreational activities are carried out during leisure (free) hours. There are different types of recreation which can be classified into active or passive.

The active recreational activities involve the use of large muscles of the body and are usually vigorous in nature e.g. sports such as soccer, basketball, wrestling, volleyball, swimming etc. are active recreational activities.

The passive recreational activities are those activities that do not involve the use of large muscles and are not vigorous in nature e.g. watching movies, studying nature, reading etc.



Fig. 2.2: Recreation

Source: <https://forestrypedia.com/recreation-and-recreation-management-concept-need-and-importance>

### **Characteristics of Recreation**

- It is voluntary.
- It is done during leisure (free) time.
- It is enjoyable.
- It is none survival (not for monetary purpose).
- The activity should be chosen wisely and should not be harmful to health in any way.
- It is not work.

### **Health Benefits of Recreation**

- Provides relaxation and reduces tension after a hard day's work.
- Increases physical fitness.
- Gives satisfaction to body and soul.

- Brings people of common interest together and therefore provide a good avenue for social interaction.
- Reduces tension brought about by the demands of societal factors.
- Helps in improving emotional health because it is an avenue for relieving emotional strains.
- Enables one to utilise leisure hours wisely.
- Promotes creativity and self-expression.
- Excellent performance in recreational skills promote self-esteem and personal ego.

### **3.1.6 Posture**

Posture refers to the position of the body while sitting, standing or walking. For an individual to maintain a good posture in any of the above, the skeleton must be held together in the correct position. The skeletal muscle must be held in the correct position. The skeletal muscle responsible for good posture and good muscle tones are determined by correct muscular alignment

Good posture is one in which the bones are aligned together easily and put minimal efforts on the part of the skeletal muscle involved, while bad posture occurs when the head is held forward to a marked degree, the chest is depressed, the abdomen is completely relaxed and protuberant and the shoulders are held behind.

Good standing posture is:

- When the body is held erect with shoulders in correct position.
- Weight evenly distributed.
- Standing position should be easy.
- Should not put unnecessary strain on the skeletal muscles.
- Weight is evenly distributed on both feet.
- Abdominal muscles should be in a slight state of contraction.
- The arms should hang loosely at the sides.
- Palm turned inward and fingers slightly bent.

Good sitting position posture is:

- When the pelvis is well supported by the chair
- The back is well supported by the chair
- The feet rests flat on the floor
- At least two thirds of the thighs is well supported on the chair.

- The knees should be bent at the right angle.  
For more on benefits of good posture, kindly click on <https://www.youtube.com/watch?v=OyK0oE5rwFY>

### **Effects of Good Posture**

- Good posture allows diaphragm which gives strong support to the heart and allows it to pump blood efficiently.
- Good posture allows for strong abdominal wall and keeps the intestinal organs in proper position.
- Good posture enables good physical fitness of muscle and bones.
- Good posture brings comfort and ease to the body generally and allows it to function effectively.
- Fatigue is delayed when joints are not over strained.
- Breathing is made easier when one is in the correct standing or sitting position.
- Happiness, confidence and vitality are reflected in good posture.

### **3.1.7 Postural Defects**

Some common defects that are associated with bad posture are as follows:

#### **1. Kyphosis**

This is also referred to as hunchback. It is the forward rounding of exaggerated curvature of the spine than normal. This condition can occur at any age but commonly found in older people especially women. Kyphosis can lead to severe back pain and stiffness.

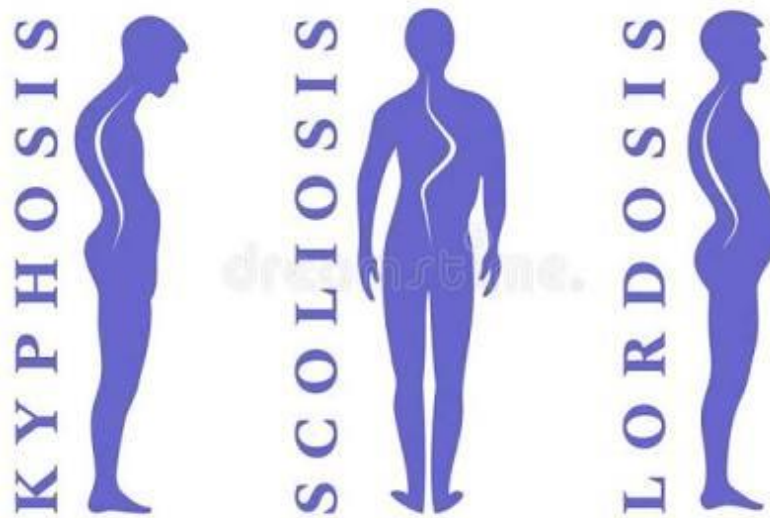


Fig. 3.1: Postural Defects

Source: <https://images.app.goo.gl/m3BFvjH96Hr5ZT8>

## 2. Lordosis

This is the inward curvature of the lumbar and cervical part of the vertebral column. It is also called swayback or saddleback. This condition, if not corrected can cause the buttocks to be prominent. People with lordosis usually have small space beneath their lower part when lying on a hard surface.

## 3. Scotiosis

This is a condition that allows the spine to curve sideways. This condition can affect the spine. Usually, the chest area (thoracic scoliosis) and the lower section of the back (lumbar scoliosis) are mostly affected.

For more on Kyphosis, Lordosis and Scotiosis, click on <https://www.youtube.com/watch?v=DOi24AH5yiE>

## Common causes of Postural Defects

- Overweight
- Genetics



- Accidents
- Injuries
- Stress
- Weak muscles
- Bad chairs/tables
- Bad beds
- Unsupportive shoes
- Wrong sitting, walking, sleeping or driving positions
- Sedentary lifestyle

#### **4.0 Self-Assessment Exercise**

1. Mention six food substances found in good food.
2. Identify four important functions that good food performs in the body.
3. State four ways exercise can improve the health of an individual.
4. Define sleep.
5. Outline the importance of sleep to personal health.

#### **Answer**

1. Carbohydrates, Proteins, Fats and Oil, Vitamins, Minerals and Water
2. Important functions that good food performs in the body
  - Maintains body tissue
  - Helps regulate body temperature
  - Provides energy
  - Supports growth and development
3. Ways regular exercise can improve the health of an individual
  - Because physical exercise involves the movement of various parts of the body, the muscles are actively involved thereby resulting in sufficient supply of oxygen and other nutrients to the muscles which help to further strengthen the muscles.
  - Exercise increases the heartbeat which helps to strengthen the heart muscles and increase blood circulation.
  - The increase in blood circulation helps to carry oxygen and food nutrients to all the body cells.

- Exercise increases breathing which allows increased oxygen inhalation.
  - Carbon dioxide is also carried away from the body at a faster rate during exercise.
  - Exercise speeds up the removal of other waste products from the body, for example excess lactic acid is removed through the kidney.
  - The sweat glands are activated
  - More sweats are released
  - Exercise makes food digestion easier and chances of constipation are minimised.
  - Exercise help in building up skeletal muscular system and also increases joint mobility (flexibility).
  - Exercise increase mental health because the nerves of the brain also receive increased blood supply.
  - Exercise prevents excess accumulation of fat or cholesterol thereby reducing the risk of cardiac diseases.
  - Exercise encourages good sleep and relaxation which is needed for body rejuvenation.
4. Sleep is a state of partial unconsciousness from which one can awaken. Sleep is a natural part of life.
  5. Sleep plays essential roles to personal health development. Four of such roles is outlined below:
    - Avoid heavy meals close to bedtime.
    - Spend more quiet time relaxing before going to sleep e.g. read a story, take a warm bath etc.
    - Quiet and restful music may help encourage sleep.
    - There should be good fresh air in the room.

## **5.0 CONCLUSION**

For various parts of the body to remain healthy and function effectively, it requires maintenance through the development and practice of healthy behaviours such as eating the correct food in the right proportion, maintaining healthy weight, engaging in regular exercise etc. these basic requirements play a major role in promoting the health of the individual.

## **6.0 SUMMARY**

In this unit, the essential requirements for the development, maintenance and promotion of good health are explained. The health benefits of good food (balanced diet), regular exercise, adequate rest, sleep and recreation are well discussed.

## **7.0 REFERENCES/FURTHER READING**

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## **UNIT 3 PERSONAL HYGIENE**

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## **1.0 Introduction**

Observing good personal hygiene is of utmost importance in the promotion of health for any individual. Personal hygiene in terms of cleanliness and healthy maintenance of the body parts is vital to the promotion of personal health.

## **2.0 Intended Learning Outcome(s) (ILOs)**

By the end of this unit, you will be able to:

- Appraise the basic rudiments of personal hygiene that is necessary for the maintenance of good health.

## **3.0 MAIN CONTENT**

### **3.1 Oral Hygiene**

Sound healthy teeth and gums are necessary for thorough chewing of food. This process helps in achieving a perfect digestion of food. When the teeth and gums are diseased, it usually interferes with digestion and the body may suffer from malnutrition or bacteria which may be carried to other parts of the body by the blood that could result into diseases.

Tooth decay occurs when the enamel are destroyed by bacteria. This condition is usually influenced by diet, bacteria and poor cleaning of the teeth, endocrine disorders, heredity and diseases. Calcium and phosphorus are major nutritional factors required for building good teeth along with the presence of vitamin A, C and D.

To maintain and promote good oral health, the following should be observed:

- Brush the teeth at least twice a day with soft bristled brush or if possible, after every meal.
- Choose toothpaste that contains fluoride in order to protect the teeth from decay.
- Place your toothbrush at 45degree angle against your gums.
- Move your brush back and forth gently in short strokes.
- Brush the outer tooth surface, the inner tooth surfaces and the chewing surfaces.
- Use the toe of the brush to clean the inside surfaces of the front teeth, using a gentle up-and-down stroke.
- Brush your tongue to remove bacteria and freshen breath.
- Eat a balanced diet.
- Limit the eating of sugary and starchy foods.
- Choose nutritious foods such as cheese, vegetables and fruits.
- Visit the dentist regularly.

### **3.2 Care for Clothing**

Clothing often has great influence on the wellbeing of an individual. Clothes function as protection to the human body. It protects the body from harsh weather, animal and insect bites and also gives confidence to the person wearing the cloth. Clothes that are decent and carefully selected add beauty and adornment to the wearer.

Clothes are used on daily basis and needs to be well taken care of in order to protect and maintain good health.

Proper care of clothing involves the following:

- Select clothes that will keep the body cool in hot seasons.
- Select clothes that will keep the body warm during cold seasons.
- Select clothes that keep the body dry during rainy season.
- Clothes for work should suit the types of work one engages in. Clothes worn during work should protect against accidents and should not constitute risks.
- Wear the right clothes for specific activities e.g. sports, laboratory, industry etc.
- Wash your clothes when they're dirty with soap and clean water.
- The same clothes should not be used for work and play.
- Dry clothes in the sun, to kill germs.
- Allow enough airing for your clothes.
- Change underwear and wash on a daily basis.
- Wear night clothes when going to bed.
- Keep clothes clean and pressed.

### **3.3 Care for the Skin**

A healthy and attractive skin can be acquired through good health practices such as proper diet, regular washing of the skin, adequate rest and exercise. The skin should be washed regularly with soap and clean water. Particular attention should be paid to parts of the body that produce more sweats e.g. private parts, armpits, in between toes, fingers, inner and outer parts of the ears, etc. It is advisable to have good bath of the skin at least twice in a day. Appropriate clothes should be worn to protect the skin from harsh weather conditions.

Avoid the use of body creams or soaps that contain harmful chemicals which may have damaging effects on the skin.

Cuts on the skin should be covered and dressed regularly until they are completely healed in order to avoid any form of infection.

An unwashed or dirty skin may bring about skin diseases such as eczema, boils, acne, ringworms and blockage of the natural pores of the skin. When these pores are blocked, the excretion of sweat becomes inhibited and can interfere with the normal

functioning of the skin e.g. infection can develop, normal temperature control may become difficult.

A healthy and normal skin performs the following functions:

- The skin acts as thermometer, helping to maintain a constant body temperature.
- The skin helps to keep the underlying structures from drying.
- The skin protects the underlying structure from injury and bacterial invasion.
- The skin receives external stimuli such as touch, heat, cold and pressure.
- The skin helps the body to respond to the environment.
- The skin is an organ of elimination such as perspiration.
- The skin has the power of absorption to certain degrees e.g. certain drugs when rubbed on the skin can be absorbed through it.

Regular bath taking is very essential for healthy skin, not only for removal of dirt and body odor but also to stimulate or soothe the nervous system and improve the tone of the skin.

### **3.4 Care of the Hair**

Bushy and dirty hair harbours germs and head lice. One of the most important factors that determine a well groomed man and woman is the care of the hair. The state of health and nutrition of the body is shown to some extent by the hair. To maintain a good healthy hair:

- The hair scalp should be washed regularly with soap and water.
- Comb and brush the hair with good and neat combs that will not cause injury.
- Apply hair cream to give the hair a good texture.
- Always wash the hair at least once in a week for females and every day for males.
- Avoid using any heat treatment or substance that can cause damage to the scalp.
- Eat well balanced diet.

### **Pediculosis (Head lice)**

- Lice are small, wingless insects and about the size of a sesame.
- They feed on human blood.
- They can live only twenty four hours off the human host.
- They leave an itchy feeling, like mosquito bite.
- Each head louse can lay up to ten nits (eggs) per day.
- Daily shampooing will not prevent you from getting head lice.
- Nits can be found anywhere on the head.
- Head lice can be spread by wearing infested clothing such as hats, scarves, sports uniforms or hair ribbons.
- Head lice can be spread by using infested combs, brushes or towels
- Head lice do not jump or fly, they crawl from place to place and from person to person.
- Anyone who comes in close contact with someone who already has head lice, contaminated clothing and other belongings can get head lice. Children ages 3 to 10 years and their families are infested the most often at times.

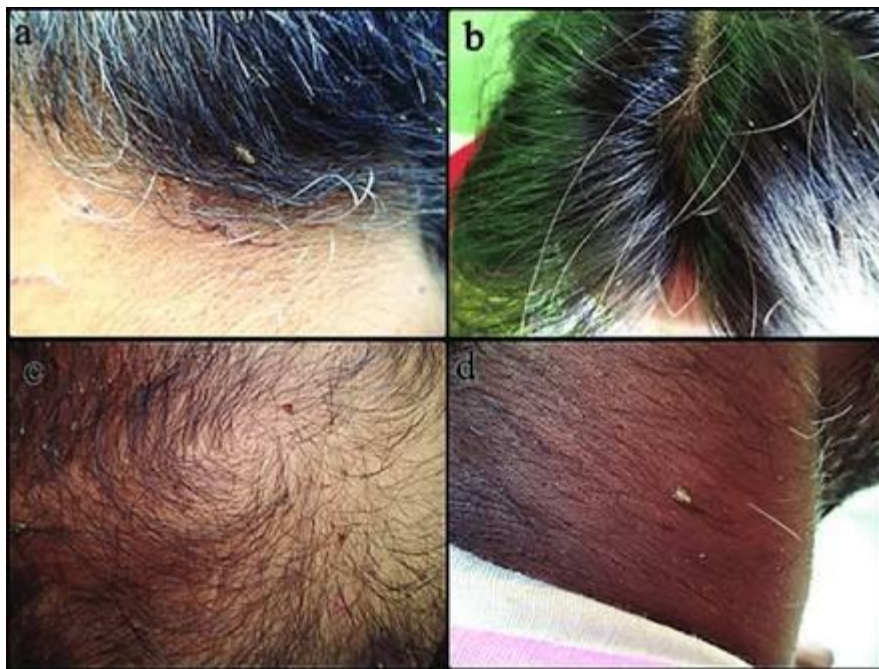


Fig. 3.2: Pediculosis capitis (a, b) and Pediculosis corporis (c, d) in chronic schizophrenic patients.



Source: [https://www.researchgate.net/figure/pediculosis-capitis-a-b-and-pediculosis-corporis-c-d-in-chronic-schizophrenic\\_fig1\\_3219599317](https://www.researchgate.net/figure/pediculosis-capitis-a-b-and-pediculosis-corporis-c-d-in-chronic-schizophrenic_fig1_3219599317)

To treat an infestation, experts offer the following recommendations:

- Treat the infested person and infested family members
- Soak combs and brushes in rubbing alcohol.
- Wash combs and brushes in soap and hot water.
- Wash and dry clean clothing and bed linens.
- Avoid sharing of combs, brushes and head scarves.
- Prevent re-infestation by avoiding contact with infected persons.

### **3.5 Care of the Eyes**

The eye is one of the most important organs in the human body. The eyes carry out many important functions that make life comfortable and enjoyable. Some of the functions of the eyes include the following:

Protection: The eyes serve as a protection against hazardous things and situations. The eyes are the first defense against dangers in the environment e.g. the eyes help to detect dangerous objects in the environment which an individual needs to avoid.

- The eyes help one to appreciate the beauty of the world and wonders of nature e.g. plants, animals.
- The eye widens the scope of knowledge.
- The eyes is a channel to knowledge and education, the eyes helps an individual to read books, watch motion pictures, operate modern technological devices such as the computer, phones, industrial machines and other tools that make life more comfortable and bearable.
- The eyes enable one to get to know and see other people who may affect life positively. In summary, the eye is the center of life for many people because one depends practically on the eyes for everything either in work, play or relaxation. To keep the eyes healthy and prevent the risk of endangering them, proper care of the eyes is very important.

**Suggestion for care of eyes:**

- Correct lighting at all times for the eyes is important.
  - Avoid sharp objects close to the eyes.
  - Avoid unnecessary straining of the eyes.
  - Do not expose eyes to excessive brightness e.g. looking at eclipse of the sun without adequate protection can be hazardous to the eyes.
  - Read and write in environments with adequate lighting in order to avoid straining of the eyes.
  - Do not sit too close to television sets when watching.
  - Never point sharp objects at your eyes or anybody's eyes.
  - Protect the eyes adequately when participating in games/sports that warrant the use of sharp equipment.
  - Do not wear medicated glasses that are not recommended by a doctor.
  - Wear sunglasses where necessary, to protect the eyes from sunrays.
  - Resting the eyes at intervals during long periods of studies is necessary
  - Go for yearly medical examination of the eyes by a qualified ophthalmologist.
- To watch a video of how to take care of your eyes, click on <https://www.youtube.com/watch?v=9A9AOY-1ZR8>

### **3.6 Care of the Ears**

The ear is a very useful part of the human body. It enables one to hear sounds and it is needed for effective communication. Apart from hearing sounds, the ear helps the body to maintain equilibrium. The ear enables one to listen and dance to pleasant music. Hearing or dancing to such music can help in promoting the emotional health of an individual. To protect the ear from danger and help them to remain healthy, it is necessary to take note of the following.

- Clean the ears regularly with cotton buds.
- Avoid using any form of sharp objects on the ears.
- Avoid exposure of the ears to high pitched or prolonged colds.
- Avoid throat or nose infections.
- Avoid blows on the ears.
- Do not blow the nose too vigorously.
- Do not allow the entrance of water into the ears.
- Consult a doctor, if you experience any earache, discharge or irritation.

### **3.7 Hand Washing**

Regular hand washing can be effective in preventing diseases. Washing of hands should be done before, during and after preparing food, before eating, after eating, after visiting the toilet, after visiting a sick person, after handling an animal or any waste. Hands should always be washed when they are dirty.

To wash hands, first wet the hands and apply liquid or clean soap, rub your hands together vigorously and scrub all surfaces including in between the fingers, continue for ten to fifteen seconds. Rinse well and dry your hands.

Children and many adults need instruction on effective hand washing. Teachers and parents should provide opportunities for children to wash their hands often and to demonstrate that they know how to do it well.

Everybody must understand that one of the most common ways that people catch colds and infections is by rubbing their noses and their eyes after their hands have been contaminated with virus. Germs are found on most surfaces that people touch and one way of preventing diseases caused by germs is through regular hand washing.

Click on <https://www.youtube.com?v=lisgnbMfKvI> to watch Hand-Washing Steps Using the WHO Technique.

#### **4.0 Self-Assessment Exercise**

1. Identify five ways to maintain and promote good oral hygiene.
2. Explain five functions of a good and healthy skin.
3. Identify ten ways necessary for keeping the eyes healthy and prevent risks of endangering them.

#### **Answers**

1. To maintain and promote good oral hygiene
  - Brush the teeth at least twice a day with soft bristled brush or if possible, after every meal
  - Choose toothpaste that contain fluoride in order to protect the teeth from decay
  - Place your toothbrush at 45 degree angle against your gums
  - Move your brush back and forth gently in short strokes

- Use the toe of the brush to clean the inside surfaces of the front teeth, using a gentle up-and-down stroke
2. Functions of a good healthy skin
- The skin acts as thermometer, helping to maintain a constant body temperature.
  - The skin helps to keep the underlying structures from drying.
  - The skin protects the underlying structure from injury and bacterial invasion.
  - The skin receives external stimuli such as touch, heat, cold and pressure.
  - The skin helps the body to respond to the environment.
  - The skin is an organ of elimination such as perspiration.
  - The skin has the power of absorption to certain degrees e.g. certain drugs when rubbed on the skin can be absorbed through it.
3. Ways for keeping the eyes healthy
- Correct lighting at all times for the eyes is important.
  - Avoid sharp objects close to the eyes.
  - Avoid unnecessary straining of the eyes.
  - Do not expose eyes to excessive brightness e.g. looking at eclipse of the sun without adequate protection can be hazardous to the eyes.
  - Read and write in environments with adequate lighting in order to avoid straining of the eyes.
  - Do not sit too close to television sets when watching.
  - Never point sharp objects at your eyes or anybody's eyes.
  - Protect the eyes adequately when participating in games/sports that warrant the use of sharp equipment.
  - Do not wear medicated glasses that are not recommended by a doctor.
  - Wear sunglasses where necessary, to protect the eyes from sunrays.
  - Resting the eyes at intervals during long periods of studies is necessary
  - Go for yearly medical examination of the eyes by a qualified ophthalmologist

## **5.0 Conclusion**

Good personal hygiene play a significant role in the protection promotion and maintenance of good health. Observing good hygiene and cleanliness with regards to oral health, clothing, skin, hair, eyes, ears, hand washing and posture can go a long way in health maintain ace.

## **6.0 Summary**

This unit examined the importance of the rudiments involved in promoting healthy growth and development in aspects of oral hygiene, care for clothing, skin, hair, eyes, ears, hand washing and maintaining healthy body posture at all times.

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## **UNIT 4 - ENVIRONMENT AND GOOD HEALTH**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Intended Learning Outcome(s) (ILOs)
- 3.0 Main Content
  - 3.1 Water Supply
  - 3.2 Purification of Water
  - 3.3 Sewage Disposal
  - 3.4 Refuse Disposal
  - 3.5 Pollution
  - 3.6 Housing
  - 3.7
  - 3.8 Food Handling
- 4.0 Self-Assessment Exercise
- 5.0 Conclusion
- 6.0 Summary
- 7.0** References/ Further Reading

### **1.0 Introduction**

The environment is a key determinant of optimum health and general wellbeing of all human beings. Man's external environment contains elements which are essential for life and for maintenance of good health. The environment contains both living and non-living things which an individual has to interact with. In addition, environment contains potential hazards that can have negative effects on the health of man.

## **2.0 Intended Learning Outcome(s) (ILOs)**

By the end of this unit you will be able to:

- Appraise the role of safe water in promoting and maintaining good health.
- Classify methods of water purification.
- Practice good sewage disposal.
- Value good refuse disposal.
- Identify health implications of pollution.
- Indicate qualities of healthy housing.

## **3.0 MAIN CONTENT**

### **3.1 Water Supply**

There is a common adage which says that “water sustains life”. This adage emphasizes the importance of water to the existence of human beings and indeed all forms of animals. The role of safe water in the promotion and maintenance of health cannot be overemphasized. Safe and adequate supply of water is needed for food preparation, bathing, washing, cleaning the environment, industrial use, disposal of waste from homes and industries.

Without good and adequate water supply, the environment becomes hazardous for habitation because dirt will accumulate and this may lead to spread of various diseases.

### **Safe Water Supply**

The pipe borne water is regarded as the safest water supply because it is assumed that such water supply is treated before sending it to various homes, industries and other public places for use. Unfortunately, this source of water is not available to

majority of the people in Nigerian communities especially, the rural dwellers. Many of the people depends on other sources of water. These other sources of water include rain water, surface water and underground water.

- a. Rain Water – Rain water is pure but may pick up dirt from the atmosphere e.g. roofs and other contaminants in the environment.
- b. Surface Water – Surface water includes water from streams, rivers, ponds, lakes and seas. These sources are easily polluted by human or animal waste or indirectly by rain washing faeces and other pollutants into them. Surface water must therefore be purified before use.
- c. Underground Water – This constitutes wells and boreholes. Shallow wells are liable to pollutions by seepage from surface water.

### **3.2 Purification of Water**

Purification of water can be done by one or combination of the following methods:

- a. Boiling: This is one of the most reliable method of water purification because heat helps to destroy bacteria. This method makes water safe for consumption. It is advisable to boil all waters to be use especially for feeding of young infants.
- b. Disinfection: The usual method of disinfecting water is through the use of chlorine. Most forms of bacteria are killed by chlorination and will often give water that is safe for drinking purpose.
- c. Sedimentation: To preserve water by sedimentation means, the prolonged storage of water which permits suspended matter to settle down. It also results in great reduction of bacteria through natural processes. More than 99% of bacteria in water will die during a storage period of 30 days, thus making it easier to kill the remainder by other treatment processes.
- d. Filtration: Various devices are used for filtration, a thick clean cloth may remove large particles from water, simple domestic filter in which water is filtered through a “candle” filter which is made of fine clay.
- e. Coagulation: Adding harmless chemical such as alum and lime can help purify water by carrying fine suspended matter. This particles settle more rapidly leaving clear water above it.



### **3.3 Sewage Disposal**

In any community, there is the necessity for disposal of human waste. The healthy disposal of sewage is necessary for the maintenance of community health. This aspect of environmental health, has been the greatest problem of most under developed nations. Human waste could be a great threat to health if not properly handled. Human waste is largely responsible for organisms that cause diseases such as diarrhea, dysentery, typhoid fever and other gastro intestinal problems. In addition, human waste is attractive to flies and supports the development of larval stages (maggots) of flies.

The handling and management of human waste in our community is of utmost importance and must be given proper attention if community health must be protected and maintained. The sanitary disposal of human waste can only be achieved when there are adequate provisions in the community for disposal of such waste. Public places such as markets, parks etc require adequate toilet facilities which should be well maintained and kept clean always.

In the rural areas where the water cistern toilets are not available, each household should possess at least one pit toilet. Defecating in an open bush is unacceptable to good health because this practice attract flies easily and can cause the spread of diseases.

#### **Qualities of a Good Pit Toilet**

- It should be constructed on hard soil.
- There should be no contamination with surface soil.
- There should be no contamination with surface water or underground water.
- The toilets must be accessible to flies or animals.
- There should be no unpleasant odour or unsightly conditions.
- It should be washed and kept clean on a daily basis using disinfectants.

The uses of the water cistern toilets are common in urban areas. This disposal system is considered safe and healthy if the soakage pit is well constructed and well covered. This method prevent flies and unpleasant odours, it is neat and more comfortable for use. The success of this method however depends on adequate supply of water. Toilets must be flushed after every use and all toilets should be washed and disinfected on a daily basis.

### **3.4 Refuse Disposal**

Disposal of refuse involves storage, collection and disposal of solid waste in our environment. Refuse includes materials such as food remnants, bottles, tins, dead animals, polythene bags and a variety of discarded items.

Improper or poor refuse disposal attracts flies, insects and other rodents which may constitute health hazards. Accumulation of refuse can bring about offensive odors which would pollute the air in our environment.

#### **a. Storage of refuse**

Good storage of refuse in our homes or other places requires adequate provisions of containers for storage of the refuse. The placement and maintenance of these containers should be hygienic and should not constitute health hazards either to the user or his immediate surroundings. Dustbins or garbage cans should be water tight and should have tight fitting lids. It should be rust resistant, regularly emptied and cleaned.

#### **b. Collection of refuse**

Every community should have an effective and workable refuse collection service. Where this is not available, it is not uncommon to see huge heaps of refuse littering everywhere. This condition is generally favorable for high flies and rodent population that are always agents of disease spread. The collection of refuse should be frequent and reliable. The government of any society has the responsibility to organise an effective and safe methods of refuse collections in the communities. The collection should be done on a daily basis in order to prevent too much accumulation of refuse which may be hazardous to the health of people. Government health authorities or agencies must shoulder the responsibility of refuse collection in the community.

#### **c. Disposal of refuse**

Methods of refuse disposal commonly used are:

- i. Dumping in the river
- ii. Open dumping
- iii. Sanitary-landfill
- iv. Burning (incineration)

### **Dumping in River**

This method is usually used in riverine towns where refuse are discharged into rivers. This method results in littering of shore lines with refuse and can constitute health hazards.

### **Open dumping**

This method is simple, cheap and requires little planning. This involves dumping all refuse in a selected spot. The method is frequently found in tropical communities. This method constitutes a great threat to health because it provides ideal breathing place for flies, rats, cockroaches and mosquitoes. It is unsightly and constitute a health menace to people in the community. Every effort must be made to eliminate this method.

### **Sanitary-landfill**

This method involves selecting a land that is usually far from where a community members dwell, such land is dug and refuse from the community is deposited into the ditch and then covered with soil. This method is very safe because it is free from flies and other rodents.

### **Burning (incineration)**

This method is frequently used, it involves gathering all refuse in an incinerator, gas or coal are used for maximum burning of refuse. A standard incinerator has magnetic separators that removes cans, bottles, and other metal materials. Open burning are usually unsatisfactory because surroundings are usually littered with cans and open bottles and may constitute accidents hazards to people around the community. The smoke or odor can also contribute to air pollution. In addition, it is also liable to fire risks in the environment.

## **3.5 Pollution**

Water, air and land are areas that are usually polluted in the environment.

### **Air**

Pollution of the air occurs when the air contains substances which are harmful to human health in sufficient quantity. There are many air pollutants in our environment such as smoke, industrial waste, exhaust fumes from gasoline or diesel engines burning of tyres, smoke from cooking with firewood etc.



Fig. 4.1: Air Pollution

Source: [https://en.wikipedia.org/wiki/Air\\_pollution](https://en.wikipedia.org/wiki/Air_pollution)

### **Water**

Pollution of water occurs when it contains substances in sufficient quantities that can constitute hazard to health. Some common water pollutants in our environment include waste from human beings, animals' etc. Feaces from humans, dumping of refuse and industrial waste into water, seepage of toilet into wells and underground water. These conditions can lead to the spread of water borne diseases such as cholera, dysentery, diarrhea and hepatitis.



Fig. 3.3: Water Pollution

Source: <https://www.nrdc.org/stories/water-pollution-everything-you-need-know>

## Land

Land can also be polluted when it is littered with waste or abandoned materials from human beings or animals. Examples of such wastes or abandoned materials are heaps of refuse situated where people live and work, damaged vehicles that are abandoned in the environment, dead animals that are thrown anywhere etc. land pollution can endanger health because it allows a breeding ground for germs, flies and rodents which may spread diseases.

## 3.6 Housing and Health

Good housing that meets health standard provides comfort and convenience as an important aspect of health. The house is a significant part of man's environment because it provides shelter and a resting place. Good housing should minimise physical and biological hazards in the environment and should promote the health of inhabitants.

### 3.6.1 Hazards Associated with Poor Housing

- a. **Biological:** Biological hazards in the home consist of transmission of communicable diseases, poor ventilation and overcrowding which may predispose individual to spread of infections, non-availability of good water supply for general washing and keeping the surrounding clean. Non availability of good storage facility for food or poorly designed kitchens that can lead to spread of gastrointestinal infections or food.

- b. **Physical:** Houses that are prone to hazards such as falls, electric shock, burns, poisoning, excessive noise, poor lighting etc.
- c. **Social:** The home should be designed in such a way that will allow the family function effectively. The setting should be suitable for bringing up children and should provide sufficient privacy. Good housing should provide fundamental, physiological, psychological and sanitary requirements necessary for sustaining and promoting good health. A physical environment of comfort, convenience and beauty in the home brings more happiness to the inhabitants and make life more appreciative.

### **3.6.2 Qualities of a Good House**

- It should meet the requirements and needs for health and safety.
- It should be accessible to good roads.
- There should be safe and adequate water supply.
- It should have good sewage and refuse disposal system.
- It should allow for good ventilation.
- It should not be located where there is excessive noise.
- It should provide for personal and family privacy as far as possible.
- There should be adequate space for sleeping and ventilation.
- There should be adequate protection against accidents of all forms.
- Furniture in the home should be safe for use.
- There should be adequate lighting in the house.
- Houses should not be overcrowded.
- There should be adequate toilet facilities.

### **3.7 Food Handling**

Food hygiene in home and in the general community by food handlers is very important aspect of personal health. The aim of food hygiene is to prevent food contamination at all stages of collection, preparation, transportation, storage and sale. To maintain high standards of hygiene in food handling, the following measures must be taken:

- Environment where food is prepared must be very clean and free from flies and other rodents.
- Control of primary sources of food is important e.g. avoidance of use of human manure and fertilizer.
- Supervision of all food handlers and their premises to ensure optimum hygienic environment.
- Food displayed for sale must be properly covered and serve with clean and well-kept utensils.
- Regular inspection of premises such as abattoirs should be carried out to ensure that diseased animals are not sold to the public.
- People suffering from any kind of communicable disease should not be allowed to handle public food.
- Dustbins around food premises should be covered always and not exposed to flies.
- Fruits and vegetables should be washed properly before consumption.
- Every individual must be knowledgeable on the health facts to look out for when purchasing canned food or milk.
- Exportation and importation of food should be well guided by enforcing rules regarding their health safety.
- Regular supervision of food handlers is very important.



www.shutterstock.com · 708594931

Fig. 3.4: Food Handling

Source: <https://www.shutterstock.com/image-vector/illustration-food-handling-icons-clean-seperate-708594931>

#### 4.0 Self-Assessment Exercise

1. Explain measures of ensuring safe and pure water consumption,
2. State four methods of refuse disposal and their health implications.
3. Define the following
  - a. Air pollution
  - b. Water pollution
  - c. Land pollution

#### Answers

1. Measures of ensuring safe and pure water consumption
  - Boiling
  - Disinfection
  - Sedimentation
  - Filtration
  - Coagulation
2. Methods of refuse disposal
  - Dumping in the river



- Open dumping
  - Sanitary-landfill
  - Burning (incineration)
3. Air pollution occurs when the air contains substances which are harmful to human health in sufficient quantity.
- Water pollution occurs when it contains substances in sufficient quantities that can constitute hazard to health. Some common water pollutants in our environment include waste from human beings, animals' etc. Feaces from humans, dumping of refuse and industrial waste into water, seepage of toilet into wells and underground water.

## **5.0 Conclusion**

The environment is a major determinant of good health of all human beings. Factors in the environment such as adequate supply and safety of water, good sewage and refuse disposal, prevention of air, water and land pollution, good housing and hygienic handling of food are all determinants of health promotion and protection.

## **6.0 Summary**

This unit explained the importance of healthy environment as a key determinant of good health, it identifies the various components of the human external environment and how to maintain them, to ensure disease prevention and health promotion.

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## **UNIT 5 - LIFESTYLE RELATED HEALTH PROBLEMS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Intended Learning Outcome(s) (ILOs)
- 3.0 Main Content

3.1	Meaning of Lifestyle and Behaviour
3.2	Obesity
3.3	Diabetes
3.4	Drug, Alcohol and Smoking Problems
4.0	Self-Assessment Exercise
5.0	Conclusion
6.0	Summary
7.0	References for Further Reading

## **1.0 Introduction**

Human lifestyle and behaviour in general is seen as the most important factor that can affect health. Certain things which an individual consciously engage in or refuses to engage in, can have a positive or negative influence on his health. Individual must learn to accept responsibility for their own health through the avoidance of risk behaviours that may endanger health, the unit introduces you to certain health conditions that are brought about, as a result of unhealthy lifestyles.

## **2.0 Intended Learning Outcome(s) (ILOs)**

By the end of this unit, you will be able to:

- Explain the term lifestyle/behaviour
- Classify the negative lifestyles or behaviours that can lead to diseases such as diabetes, obesity and other chronic disease conditions.

## **3.0 MAIN CONTENT**

### **3.1 Definition of Lifestyle/Behavior**

Human behaviour is seen as attitude or practices which an individual consciously engage in or refuse to engage in, which can have positive or negative effect on his health. The optimal wellbeing of an individual is largely determined by his lifestyle.

Lifestyle or behaviour as it affects health, is the ability of an individual to be able to make intelligent and wise decisions about their habits and behaviours especially those behaviours that can be controlled in order to minimise health risks. It is not unusual to find people engaging in hazardous behaviours such as cigarette smoking, alcoholism, drug abuse etc. as a way of escaping from the stress of life and relieving tension. Such behaviour can become habitual and if not controlled, can constitute

serious danger to health. Many degenerative diseases such as diabetes, hypertension, and cancer are associated with such bad behaviours.

### 3.2 Obesity

Obesity is a medical condition characterised by excessive accumulation and storage of fat in the body that may have negative effect on health.

People are generally considered obese, when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the height is over 30kg/m<sup>2</sup> is defined as overweight.

Obesity increases the likelihood of various diseases and conditions, particularly cardiovascular diseases, type 2 diabetes, certain types of cancer, osteoarthritis and depression.



Fig. 5.1: Obesity

Source: <https://www.lalpathlabs.com/blog/why-is-obesity-a-health-problem/>

#### Causes of Obesity

Obesity is commonly caused by overeating and physical inactivity, some of the general causes of obesity includes the following:

- a. **Genetics:** a person is more likely to develop obesity if one or both parents are obese. Genetics also affect hormones involved in fat regulations. For example,

one genetic cause of obesity is leptin deficiency. Leptin is a hormone produced by fat cells and in the placenta. Leptin controls weight by signaling the brain to eat less when body fat stores are too high. If, for some reason, the body cannot produce enough leptin or leptin cannot signal the brain to eat less, this control is lost and obesity occurs. The role of leptin replacement as a treatment for obesity is under exploration

- b. **Overeating:** Overeating leads to weight gain, especially if the diet is high in fat. Food high in fat or sugar e.g. fast food, fried food and sweets have high energy density (foods that have a lot of calories in small amounts). Epidemiologic studies have shown that diets high in fat contribute to weight gain.
- c. **A diet high in simple carbohydrates:** The role of carbohydrates in weight gain is not clear. Carbohydrates increase blood glucose levels, which in turn stimulates insulin release by the pancreas, and insulin promotes the growth of fat tissue and can cause weight gain. Some scientists believe that simple carbohydrates (sugars, fructose, desserts, soft drinks, beer, wine etc.) contribute to weight gain because they are more rapidly absorbed into the blood stream than complex carbohydrates (pasta, brown rice, grains, vegetables, raw fruits, etc.) and thus cause a more pronounced insulin release after meals than complex carbohydrates.
- d. **Frequency of eating:** There are many reports of overweight people eating less often than people with normal weight. Scientists have observed that people who eat small meals four or five times daily, have lower cholesterol levels and lower and/or more stable blood sugar levels than people who eat less frequently (two or three large meals daily).
- e. **Physical inactivity:** Sedentary people burn fewer calories than people who are active. Inactivity can lead to accumulation of excess body fats (obesity) as a result of taking in more calories than are burned by exercise and normal daily activities. This condition increases the risk of having health problems such as high blood pressure, cancer, gall bladder diseases and osteoarthritis.
- f. **Medications:** Medications associated with weight gain include certain anti-depressants (medications used in treating depression), anticonvulsants (medication used in controlling seizures such as carbamazepine, tegretol, valproate, some diabetes medications (medications used in lowering blood sugars such as insulin, sulfonylureas, certain hormones such as oral contraceptives and most corticosteroids such as prednisone. Some high blood pressure medications and antihistamines causes weight gain.

- g. **Psychological factors:** For some people, emotions influence eating habits. Many people eat excessively in response to emotions such as boredom, sadness, stress or anger. While most overweight people have no more psychological disturbances than normal weight people, about 30% of the people who seek treatment for serious weight problems have difficulties with binge eating.
- h. **Diseases:** diseases such as hypothyroidism, insulin resistant, polycystic ovary syndrome, and Cushing's syndrome are also contributors to obesity. Some diseases such as praderwilli syndrome can lead to obesity.
- i. **Social issues:** There is a link between social issues and obesity. Lack of money to purchase healthy foods or lack of safe places to walk or exercise can increase the risk of obesity.

### **Health risks associated with obesity**

Obesity is very harmful to one's health. Obesity increases the risk of developing a number of chronic diseases including the following:

- a. **Insulin resistance:** Insulin resistance is a condition whereby there is diminished effectiveness of insulin in transporting glucose (sugar) into cells. Fat cells are more insulin resistance than muscle cells: therefore one important cause of insulin resistance is obesity.
- b. **Type 2 (adult-onset) diabetes:** The risk of type 2 diabetes increases with the degree and duration of obesity.
- c. **High blood pressure (hypertension):** Hypertension is common among obese adults. A Norwegian study showed that weight gain tended to increase blood pressure in women more significantly than in men.
- d. **Heart attack:** A prospective study found that the risk of developing coronary artery disease increased three to four times in women who had a BMI greater than 29.
- e. **Cancer:** Obesity is a risk factor for cancer of the colon in men and women, cancer of the rectum and prostate in men, and cancer of the gall bladder and uterus in women. Obesity may also be associated with breast cancer particularly in postmenopausal women.
- f. High cholesterol (hypercholesterolemia)
- g. Stroke
- h. Gallstones
- i. Gout and gouty arthritis

- j. Sleep apnea
- k. Osteoarthritis (degenerative arthritis) of the knees, hips and lower back
- l. Congestive heart failure

### **Preventive measures for obesity**

- Changes in diets and exercise are the main treatments.
- Diet quality can be improved by reducing the consumption of energy dense foods.
- Foods such as those high in fats and sugars must be reduced tremendously.
- Increase the intake of high fiber foods.
- Take suitable diet that reduces appetite or decrease fat absorption.
- Engage in regular exercise programs.
- If diet and exercise are not effective, surgery may be performed to reduce stomach volume or length of the intestines, leading to feeling fuller earlier or reduced ability to absorb nutrients from food.

### **Benefits of Obesity Treatments**

In Obesity treatments, it must acknowledge that even modest weight loss can be beneficial. For example, a modest weight loss of 5%-10% of the initial weight, and long-term maintenance of that weight loss can bring significant health gains, including:

- Lowered blood pressure
- Reduced blood levels of cholesterol
- Reduced risk of type 2 (adult-onset) diabetes
- Decreased chance of stroke
- Decreased complications of heart disease
- Decreased overall mortality.
- Release of endorphins that make people feel good.
- Improved blood sugar control and increased insulin sensitivity (decreased insulin resistance)

### **3.3 Diabetes**

Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is a hormone that is needed to convert sugar, starch and other food into

energy needed for daily life. Both genetic and environmental factors such as obesity and lack of exercise appear to play roles in the onset of diabetes.

### **3.3.1 Types of Diabetes**

#### **Type I diabetes**

This is usually diagnosed in children and young adults. In type 1 diabetes, the body does not produce insulin. Insulin is necessary for the body to be able to use sugar. Sugar is the basic fuel for the cells in the body, and insulin takes the sugar from the blood into the cells.

When sugar builds up in the blood instead of going into the cells, it can cause two problems;

1. The cells may be starved of energy overtime.
2. High blood sugar levels may hurt the eyes, kidney, nerves or heart.

Many people with type 1 diabetes live long, healthy lives if they can keep the blood sugar levels within the target range. This can be done with proper meal planning, exercise and insulin. One also needs to check his blood sugar levels regularly.

For more on Type 1 Diabetes, click on <https://www.youtube.com/watch?v=jxbbBmbvu7I>

#### **Type 2 Diabetes**

Type 2 diabetes is the most common form of diabetes. In type 2 diabetes, either the body does not produce enough insulin or the cells ignore the insulin. Insulin is necessary for the body to be able to use sugar. Sugar is the basic fuel for the cells in the body and insulin takes sugar from the blood into the cells. When this happens, glucose builds up in the blood instead of going to the cells. This can result into the cells being starved of energy, eye, kidney, nerves or heart problems.

#### **Warning Signs for Type 2 Diabetes**

- Frequent urination
- Unusual thirst
- Extreme hunger
- Extreme fatigue
- Irritability



- Slow healing of wounds or sores
- Tingling or numbness in hands or feet
- Blurred vision
- High blood pressure
- Unexplained weight loss
- Dry itchy skin

For more on Type 2 Diabetes, click on <https://www.youtube.com/watch?v=OXAe3eOjqCk>

### Prevention and control of diabetes

Type 2 diabetes is linked to obesity and physical inactivity. The following preventive measures can help prevent and control diabetes:

- Know your history, tell your physician if your family has history of Type 2 diabetes.
- Manage your weight:** Excess body fat particularly, if stored around the abdomen can increase the body's resistance to the hormone insulin. This can lead to Type 2 diabetes.
- Exercise regularly:** Moderate physical activity on a regular basis helps manage weight, reduces blood glucose levels and may improve blood pressure and cholesterol. Get involved in physical activities or exercises in order to keep fit and manage weight effectively.
- Eat balanced healthy diet:** Reduce the amount of fat in your diet especially saturated fats. Eat more fruits/vegetables and high fiber foods. Cut back on salts. A healthy attitude towards eating and nutrition paves the way for healthy life habits.
- Limit alcohol intake:** Too much alcohol can lead to weight gain and may increase the blood pressure. Men should have not more than two standard drinks a day and women should have not more than one.
- Limit takeaway and processed foods:** Convenience meals are high in salt, fat and kilojoules. It is best to cook for yourself, using fresh ingredients whenever possible.
- Quit smoking:** Smokers are twice likely to develop diabetes as non-smokers.
- Control your blood pressure:** Regular exercise, a balanced diet and keeping a healthy weight can help in achieving this.  
Regular checkup of the blood pressure level is necessary and medication prescribed by a doctor is advisable where required.

- i. **Reduce risk of cardiovascular disease:** Diabetes and cardiovascular diseases have many risk factors in common including obesity and physical inactivity.
- j. **Regular medical checkup:** See your doctor on regular basis for medical checkup. As you get older, it is a good idea to regularly check your blood glucose, blood pressure and blood cholesterol levels.

### 3.4 Drugs, Alcohol and Smoking Problems

Drugs, alcohol and cigarette use constitute a major social problem in many societies. At some time in their life, most young people are at risk of embracing drug, alcohol or cigarette use, due to so many factors, among which are peer pressure and for escape reasons.

Teachers, parents and schools in general can play a significant role in helping students to make wise decisions with regards to substance abuse.

It is important for parents and teachers to be very vigilant and address this problem early, before youths get addicted to such unhealthy behaviours. As youths get older, it becomes much more difficult to terminate such behaviour.

#### 3.4.1 Drug

Drugs are chemical substances, other than food, that can affect the physiological and/or psychological processes of the body, this means, they alter how a person feels physically or psychologically.

World Health Organization (WHO), defines drug as any substance that when taken into living organism may modify or alter one or more of its functions.

Reasons why young people take drugs:

- To relieve boredom
- To feel good
- To forget their troubles and relax
- To have fun
- To satisfy curiosity
- To ease pain
- To feel grown up or matured
- To show their independence

- To belong to a specific group
- To conform with peer pressure
- Imitation of elders
- Desire to keep awake when studying
- For social adjustment e.g. dropout of school

## **Signs and symptoms of drug abuse**

Parents and teachers should watch out for these signs and symptoms in young people. The presence of such signs and symptoms may suggest a person who is into use of drugs. The signs and symptoms have been classified as follows:

- a. **Possessions**
  - Possessions of drug related items such as pipes, rolled papers, eye drops, etc.
  - Possession of drugs or evidence of drugs such as pills, white powders, hyperemic needles, plants or leaves
  - Odor of drugs, incense or other scents
- b. **Identification with Drug Culture**
  - Drug related magazines
  - Drug slogans on clothes
  - Conversation and jokes related with drugs
  - Hostility in discussing drugs
  - Collection of beer cans or bottles
- c. **Physical Deterioration**
  - Memory lapses
  - Neglect of appearance
  - Poor physical coordination
  - Indifference to hygiene and grooming
  - Difficulty in concentration
  - Slurred or incoherent speech
  - Bloodshot eyes
- d. **Dramatic Changes in School Performance**
  - Sudden and drastic drop in students grade
  - Failure to do assignments
  - Being unusually absent in school

e. **Changes in Behaviour**

- Chronic dishonesty
- Lying
- Stealing
- Cheating
- Keeping company of new friends with questionable characters.
- Possession of large amount of money.
- Exhibition of inappropriate anger, hostility, irritability etc.
- Constant borrowing of money.
- Reduced motivation, energy and self-discipline and self-esteem.
- Diminished interest in extra curricula activities and hobbies.

**Substance abuse terminologies**

- Drug misuse:** Improper use of legal drugs intended for therapeutic medication. An example of this would be someone crushing and then snorting a pill their doctor prescribed, as opposed to swallowing it with some water, as being ordered by the doctor.
- Drug abuse:** Refers to an inappropriate pattern of using any drug (legal or illicit) in such a way that their use results in a negative impact upon a person's physical and/or psychological functions.
- Drug tolerance:** A state where a person no longer responds to a drug in a way they originally had responded using the same concentration. This means, they need to take higher concentrations of the drug in order to achieve the same effect they were able to with much smaller amounts in the past.
- Drug addiction:** This is a persistent physiological and/or psychological dependence on a drug.
- Drug withdrawal:** Refers to a set of physical and emotional problems such as nausea, vomiting and fever associated with sudden discontinuation of large reduction in drug use.
- Drug overdose:** This is a state where toxic amount of a drug in the body leads to adverse effects, like coma or even death.

**Types of Illicit Drugs**

- Cocaine**

Cocaine is a powerful addictive stimulant made from the leaves of the South American coca plant and normally comes in a powder form. Street names for cocaine include blow bump, coke and snow. Cocaine is most commonly snorted or injected. It can also be smoked or administered to the skin.

**b. Heroin**

Heroin is an extremely addictive substance that is synthetically derived from opium poppy plant. It comes in the form of white or brownish powder, or as a black and sticky substance known as “black tar”. Heroin is most commonly injected though, it can also be snorted, smoked or consumed orally.

**c. Marijuana**

Marijuana is one of the most commonly abused illicit substance. The main psychoactive ingredient is THC which causes temporary euphoria followed by drowsiness, slowed reaction time and increased appetite.

**d. Inhalants**

Inhalants include household items such as paints, markers, and gums etc. which are inhaled through the mouth or nose in order to feel high. Inhaling certain types of substances can lead to heart failure, resulting in death.

**e. Hallucinogens**

LSD, PCP, mushrooms and salvia are all examples of psychoactive or mind altering drugs. Addiction to this type of drug is less common than other drugs. Use and abuse of these LSD, PCP, mushrooms and salvia are all examples of psychoactive and mind altering drugs. An addiction to this type of drug can cause severe negative side effects.

**f. Ketamine**

This substance is medically used as an anesthetic. When abused, ketamine can cause hallucinations, sedation and confusion.

**g. Meth**

Meth is extremely dangerous stimulant that can cause users to become instantly addicted. The short term effects of meth include alertness and euphoria. Long-term use of meth can lead to problems such as violent behaviours, severe dental problems, psychosis and severe paranoia.

#### **h. Ecstasy**

This is used by mainly high school students and young adults, ecstasy is considered a party drug. Its psychoactive effects includes enhanced sensory perception and can cause lowered inhibition. Ecstasy is most commonly taken orally in pill form or dissolved in water, but can also be snorted or injected.

#### **Negative effects of drugs**

Continuous use of any type of illicit substance can impose short and long-term consequences. Excessive substance use can cause the following:

- Changes in the brain which can disrupt a person's brain functions.
- Disrupt psychological wellbeing.
- Damage to relationship with family and friends.
- Inability to cope with daily responsibilities and social obligations.
- Inability to maintain grades in school.
- Financial hardships due to spending large amounts of money to maintain possession of drugs.
- Legal consequences such as being arrested for drugs use or possession.
- Heart palpitations.
- Seizures, depending on the type of drug being abused.

#### **Strategies for Drug Prevention in Schools**

##### **a. Education**

- Schools should develop comprehensive education programs on drugs.
- School health instruction programs must include adequate facts such as different types of drugs.
- Negative health effects of drug misuse/addiction etc.
- Students should be encouraged to make healthy and wise decisions that will not affect their health negatively.

##### **b. School Policy**

All schools should develop policy statements with regards to the possession and use of drugs by students. The policy should have clear statements about the rules and regulations guiding the possessions/use of drugs. Such policy must also state the

punishment and consequences for students who violate the rules. There should be a clear statement defining the types of hard drugs that are prohibited in the school. This policy must be enforced at all levels and no student should be spared when found guilty.

#### **c. Teachers Observation**

Teachers are the closest to their students during school hours. It is important for teachers to be good observers of their students in order to identify any of the signs and symptoms of drug use among them. Such students, when identified should promptly refer to the school counsellor or psychologist for proper follow up.

#### **d. School/Family Collaboration**

The school can organise programs that involve families where family members will be sensitised on ways of checking or reducing drug and alcohol use in children. Some of such measures include the following:

- Parents should serve as good role models to their children by not getting involved in drug and alcohol use.
- Sending children on errands to buy or bring them alcohol or drugs should not be practiced by parents.
- Parents should be interested in the kind of friends that their children associate with.
- Parents should encourage children to attend religious programs in church/mosques on regular basis.
- Parents should be encouraged to watch out for the signs and symptoms of drug/alcohol use in their children.

#### **e. Teach Healthy Stress**

From an early stage, teachers should help children to develop healthy ways of coping with stress and emotional feelings. Children should be encouraged to participate in healthy recreational activities instead of resulting to drugs as an escape measure to stress and strong emotional feelings. Examples of such alternative ways include:

- Talking it out with someone else.
- Participate in sports.

- Listen or dance to a favourable music.
- Go for a walk.
- See a counsellor or psychologist.

### **3.4.2 Alcohol**

Alcohol contains chemical substances known as ethyl, isopropyl or methyl.

Ethyl alcohol is not the same as isopropyl alcohol or methyl alcohol.

Methyl alcohol even in small amount is dangerous. Isopropyl alcohol is found in some cosmetics and can be dangerous if ingested.

There are three main types of ethyl alcohol which are commonly consumed. These include beer, wine and distilled spirits.

All forms of ethyl alcohol are dangerous if misused. Alcohol is the most abused substance in many societies.

### **Negative effects of alcohol**

Alcohol consumption in excess has several negative short and long-term effects as follows:

Short-term effects of alcohol

#### **a. Perception and motor skills**

Perception and motor skills are important in many of our activities such as sports, art, music and driving. When there is high level of alcohol in the body, these motor skills are affected because of decrease in visual and hearing activities, balance and judgment.

#### **b. Heart and blood vessels**

Alcohol temporarily increases both heart rate and blood pressure. Alcohol also constricts the arteries that supply blood to the heart. Although persons who drink feel warm, they are actually losing body heat because alcohol causes the peripheral blood vessels to dilate, or expand. This can be extremely dangerous in cold weather and can lead to hypothermia which is extreme loss of body heat.



### **c. Sleepiness**

Because alcohol is a depressant, it causes one to become tired. Alcohol may help a person fall asleep more quickly, however, the sleep is often light, making the person feel tired and un-refreshed, even after eight hours of sleep.

### **d. Emotions**

Alcohol depresses the prefrontal lobe of the brain which controls judgment. With lack of judgment, persons under the influence of alcohol tend to have poor decision making skills.

### **e. Hangover**

Alcohol can lead to hangovers which comes with signs and symptoms that includes headache, nausea, stomach distress and generalized discomfort.

### **f. Depression of central nervous system**

Alcohol can depress the central nervous system to the point at which the heart and lungs quits functioning resulting in cardiac or respiratory arrest. This occurs when large amount of alcohol have been consumed in a short period of time.

### **g. Lack of nutritional value**

Alcohol provides only empty calories, which means it does not contain any nutritional value. Alcohol has high calorie content (9 calories/gram) persons who are trying to watch their weight should avoid alcohol.

## **Long term effects of alcohol**

### **a. Cirrhosis of the liver**

This condition is commonly associated with alcoholic consumption. Continuous consumption of alcohol gradually damage and destroy the liver. The destroyed cells are often replaced by fibrous scar tissue, which is known as cirrhosis of the liver. This disease is the leading cause of death among alcoholics.

#### **b. Gastrointestinal disorder**

Heavy drinkers can also experience gastrointestinal disorders which can cause irritation and inflammation of the esophagus, stomach, small intestine and pancreas. Clinical studies have implicated excessive use of alcohol in the development of cancers of the mouth, pharynx, pancreas and esophagus.

#### **c. Hypoglycemia**

Hypoglycemia is another problem associated with heavy alcohol use. Hypoglycemia is a condition in which blood sugar levels are lower than normal. Because heavy drinking put much stress on the liver, it has difficulty in producing glucose and storing glycogen.

#### **d. Cardiovascular disease**

Long term heavy use of alcohol can lead to cardiovascular disease. Extensive consumption of alcohol can damage the heart muscles, leading to a condition known as cardiomyopathy, which can be fatal. It can also lead to premature heart beats or total loss of rhythm in the heart beat.

#### **e. High blood pressure**

Long term alcohol consumption can lead to the risk of developing high blood pressure, stroke and certain types of cancer.

### **3.4.3 Tobacco (Cigarette Smoking)**

Tobacco is addictive and its use is related to many health problems. Preventing or eradicating the use of tobacco has been a major concern over the years in many countries. Tobacco use usually begins in early adolescent, typically by age sixteen. Tobacco is often the first drug used by young people who later use alcohol and illegal drugs.

There are three principal methods of using tobacco:

- **Chewing:** Chewing tobacco is made up of tobacco leaves that are either dried or shredded. A portion of the loose leaf is placed in the mouth and chewed.

- **Dipping snuff:** Snuff is made from finely cut tobacco leaves and mixed with various products. There are two kinds of snuff: dry snuff and moist snuff. Dry snuff is made from finely ground dried tobacco leaves and is usually sniffed through the nose.
- **Smoking:** Tobacco can also be smoked. Three ways that persons smoke tobacco include by use of pipes, cigars and cigarettes. Cigarettes are the most popular method among adolescents and adults. Young people who smoke tobacco, are likely to progress to using other drugs such as marijuana and cocaine.

## Chemical Substances in Cigarettes

The chemical constituents of cigarettes include:

- Nicotine:** Nicotine is a colorless, poisonous alkaloid derived from tobacco plant. It is a powerful drug, which affects the brain and quickly becomes addictive.
- Tar:** “Tar” is the term used to describe the toxic chemicals found in cigarettes. It is a sticky brown substance that forms when tobacco cools and condense. It collects in the lungs and can cause cancer.
- Carbon Monoxide:** It is an odorless, colorless gas that is released from burning tobacco. When it is inhaled it enters the blood stream and interferes with the working of the heart and the blood vessels.
- Arsenic:** Arsenic containing pesticides used in tobacco farming occur in small quantities in cigarette smoke. Arsenic is commonly found in rat poison.
- Ammonia:** Ammonia is a toxic, colorless gas with sharp odor. Ammonia compounds are commonly used in cleaning products and fertilizers. Also, used to boost the impact of nicotine in manufactured cigarettes.
- Acetone:** Fragrant volatile liquid ketone is used as a solvent. E.g. Nail polish remover.
- Toluene:** Toluene is a highly toxic chemical. Industrial uses include rubber oils, resins, adhesives, inks, detergents, dyes and explosives.
- Methylamine:** Methylamine is a chemical found in tanning lotions.
- Pesticides:** A number of pesticides (toxic chemicals used to kill pests, usually insects) are present in cigarette smoke. These pesticides find their way into cigarette because they are used on tobacco plants that are growing.
- Polonium-210:** This is a radioactive element used in nuclear weapons as well as an atomic heat source.

- k. **Methanol:** Methanol is fuel used in the aviation industry.

## **Negative effects of smoking**

Short term effects:

- a. **Increased heart rate**

After smoking just one cigarette, the heart rate increases by as many as thirty-three beats per minute. Although the heart rate later decreases. Smokers generally have higher resting heart rate than non-smokers. This means that everyday a smoker's heart has to work harder than a non-smokers heart. A higher heart rate is attributed to the increased carbon monoxide levels and the constricted blood vessels caused by nicotine, which makes it harder for the heart to pump blood throughout the body. The resting heart rate for smokers is two to three beats per minute faster than that of non-smokers.

- b. **Increased blood pressure**

After smoking just one cigarette, blood pressure also increases. This increase is caused by the constricted blood vessels.

- c. **Decreased skin temperature**

When person smokes, their skin temperature quickly decreases. This is caused by nicotine, which reduces blood flow to the peripheral vessels.

- d. **Decreased hand steadiness**

Although some smokers believe that smoking relaxes them, it actually increases nervousness and tension and reduces their hand steadiness. This is as a result of the stimulant effect of nicotine. Decreased hand steadiness can affect athletic and art ability and other activities that require fine motor skills.

- e. **Increased carbon monoxide**

A smoker inhales about five percent of carbon monoxide from the smoke he inhales, this amount can be dangerous, and when excess carbon monoxide is inhaled into the lungs, the oxygen-carrying capacity of the blood is reduced. The reduced amount of oxygen in the blood makes it more difficult for the body's organ such as the heart and brain to do their work. This is why many smokers go out of breathe easily.

#### **f. Bad breathe**

Smoking causes bad breathe. This may be offensive especially when a smoker moves closer to other people.

#### **Long term effects of smoking:Lung cancer**

Smoking is responsible for a high percentage of lung cancer cases. The risk of developing lung cancer increases with the number of cigarettes smoked per day, the number of years of smoking, and the age at which the person started smoking. Smoking also increases the long-term risk of getting cancer of the bladder, esophagus, pancreas, uterus, kidney, cervix, stomach and mouth.

##### **a. Cardiovascular disease**

Smoking is a known risk factor for cardiovascular disease. Smoking triples the risk of dying from heart diseases among middle-aged men and women. Greater percent of fat deposits can be seen in the blood vessels of smokers, which can lead to heart diseases.

##### **b. Lung diseases**

Smoking is accountable for chronic lung diseases. Chronic obstructive lung diseases include two related diseases. Chronic bronchitis and emphysema. Both of these diseases are related to cigarette smoking because of the damage it does to the airways. Chronic bronchitis is a persistent inflammation and infection of the smaller airways within the lungs. Emphysema is an irreversible disease in which the alveoli are destroyed. Once the alveoli are destroyed, even quitting smoking will not regenerate them.

##### **c. Second hand tobacco smoke**

Children and adults who live in homes with smokers are at higher risk of lower respiratory tract infections, asthma induction, chronic respiratory diseases and middle ear infections. Second hand smoke exposure increases the risk for lung cancer, nasal sinus cancer, heart diseases, eye and nasal irritability.

##### **d. Aesthetic problems**

Numerous aesthetic problems are also associated with long term smoking. First time smokers generally have bad breath and stains on their teeth and fingers. Smoking also destroys much of ones sense of smell and taste, meaning that foods do not taste good and they do not smell things easily. Smoking also causes the skin to wrinkle

because of the constant constriction and relaxation of the surface blood vessels which eventually makes people look much older.

#### **4.0 Self-Assessment Exercise**

1. Define lifestyle / behaviour.
2. What is obesity?
3. Enumerate four strategies for drug prevention in schools.

#### **Answers**

1. Lifestyle or behaviour as it affects health, is the ability of an individual to be able to make intelligent and wise decisions about their habits and behaviours especially those behaviours that can be controlled in order to minimise health risks.
2. Obesity is a medical condition characterized by excessive accumulation and storage of fat in the body that may have negative effect on health. People are generally considered obese, when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the height is over 30kg/m<sup>2</sup> is defined as overweight.
3. Strategies for drug prevention in schools
  - Education
  - School policy
  - Teachers observation
  - School/ family collaboration
  - Teach healthy stress

#### **5.0 Conclusion**

Behaviour and lifestyles of human tells volumes on the quality of their health. What an individual engages in or fail to engage in can determine the state of one's health.

Certain practices or behaviours can have positive or negative influence on the individual's health. People are advised to take responsibility for their own health by making wise decisions and engaging in behaviours that will help to promote and preserve their health.

#### **6.0 Summary**

In this module, definition of lifestyle and behaviour has been clearly given. Hazardous behaviours such as cigarette smoking, alcohol consumption, drug abuse, obesity and overreacting, physical inactivity were extensively discussed alongside their health implications.

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